

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 91B0091P.WO42	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/IT2004/000173	International filing date (day/month/year) 02.04.2004	Priority date (day/month/year) 02.04.2004	
International Patent Classification (IPC) or national classification and IPC B65D51/28			
Applicant BORMIOLI ROCCO & FIGLIO S.P.A. et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 5 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand  26.09.2005		Date of completion of this report  28.02.2006	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Janosch, J  Telephone No. +49 89 2399-7525 	

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/IT2004/000173

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

2-6 as originally filed  
1, 1a, 1b received on 26.09.2005 with letter of 22.09.2005

**Claims, Numbers**

1-3 received on 26.09.2005 with letter of 22.09.2005

**Drawings, Sheets**

1 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☒ the claims, Nos. 4,5
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing *(specify)*:
  - ☐ any table(s) related to sequence listing *(specify)*:
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing *(specify)*:
  - ☐ any table(s) related to sequence listing *(specify)*:

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/IT2004/000173

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-3
	No: Claims	
Inventive step (IS)	Yes: Claims	1-3
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-3
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following document:  
D1: US-A-3 156 369 (BOWES DONALD R ET AL) 10 November 1964 (1964-11-10)

- 2.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (cf. claim 1; column 2, line 36 - column 3, line 60; figures 1-4; the references in parentheses applying to this document) all features of the preamble of claim 1.

The subject-matter of claim 1 differs from this known capsule by its characterising features. Consequently, the subject-matter of claim 1 is novel in the sense of Article 33(2) PCT.

The problem to be solved by the present invention may be regarded as to provide coupling means between the reservoir and the lower part of the capsule which permit coupling when the capsule is screwed on the neck of a flagon.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT), since the hook-shaped section facing in a downward direction of the external ring of the reservoir in cooperation with the internal annular projection on the internal surface of the lower part of the capsule permit that the coupling of reservoir and lower part is effected by screwing the capsule on the neck of the flagon.

- 2.2 Claims 2 and 3 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
3. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

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## **Description**

### **A Capsule incorporating a Doser and Openable Security Cap, in particular for Single-dose Flavons.**

#### **Technical Field**

The invention relates to the field of single-dose flavons, in particular prevalently used for containing soft drinks.

#### **Background Art**

For some time now there has been a large market demand for mostly water-based drinks containing aromas, energy-enhancing substances, mineral integrators and other substances whose main aim to give the drink an especially pleasant taste plus special benefits, such as extra energy, mineral salt replacements and so on, all of which are considered beneficial to the human organism. These drinks are often presented to the public in single-dose containers, so that once the flavon is open the contents are immediately consumed and as a result no re-closure device is necessary. The following makes reference to this type of drink, though it is true that the same *modus operandi* is used for some medicinal products.

PCT application WO 03/093128, and WO 98/38104, both by the same applicant, teach preparation of the drinks immediately before use by insertion into water provided in one container (usually a plastic flavon) of the desired substances provided in special capsules, such as the ones described, for example, in the above-cited applications.

Document EP 0 356 758 discloses a closure in plastic material for monodose bottles having a reservoir with a breakable bottom, a cylindrical element with the lower end sideways cut being inserted in the reservoir, and also

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including a sealing cap folded around the bottle neck, wherein a breaking line is provided, which extends all over the height of the cap, interconnected with a circular section which separates said cover from the upper flat wall. Document US RE 38 067 discloses a device enabling at least two substances to be stored separately, to be mixed together, and the resulting mixture to be dispensed. The device comprises a receptacle and at least one removable shutter suitable for separating, inside the receptacle, two chambers for respectively containing said substances prior to first use of the device, the device further including a pushbutton for moving on first use to cause said shutter to be removed or torn and to put the two chambers into communication with each other. The device comprises a gasket including a portion fixed to the receptacle and a deformable portion made of an elastically-deformable material suitable for deforming which the pushbutton is depressed so to accompany the movement thereof while simultaneously constituting a sealed barrier between the inside of the receptacle and the pushbutton.

Document FR 2 077 188 discloses a bottle enabling at least two substances to be stored separately, to be mixed together, and the resulting mixture to be dispensed. The device comprises a receptacle and at least one removable shutter suitable for separating, inside the receptacle, two chambers for respectively containing said substances prior to first use of the device, the device further including a pushbutton for moving on first use to cause said shutter to be removed or torn and to put the two chambers into communication with each other.

Document GB 1 403 274 discloses an assembly for separately storing and mixing two constituents. The assembly comprises a bottle having a threaded neck, an auxiliary container consisting of a first cup-shaped member sealingly-fitted in the bottle neck and a second cup-shaped member having an inverted light sliding-fit in the first member and adapted to rupture the weakened base of the first member when manually depressed to permit one constituent in the container to mix with the other in the bottle, and a screw cap having an internal tubular extension serving firstly to limit the initial screwing down of the cap by engagement with a flange of the first member, and secondly, to sealingly plug the bottleneck after mixing of the constituents and bodily removal of the auxiliary container. The second member has a lower diameter portion terminating in an oblique cutting edge and enlarged upper closed end for making a tight but sliding fit with an internal bead or rib on the first member. The screw cap, which is injection-moulded of plastic material, may be provided with a tamper-proof

- 1 tris -

**collar , connected to the body of the cap by frangible straps and having resilient internal projections which co- operate with a ring of saw-teeth in the bottle neck so that the cap may be screwed down on to the neck but cannot be unscrewed without rupturing the frangible straps.**

The capsules used for this purpose guarantee the flagons security but exhibit the problem of having an opening system that is slightly complex and awkward, in

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**Claims.**

- 1). A capsule (3) incorporating a doser and an openable security cap, in particular for single-dose flagons, comprising: a lower part (4) inferiorly bearing a security strip (12) of known type, the capsule (3) being provided with means for connecting which enable a removable insertion thereof on a neck (2) of a flagon (1); the capsule (3) including a reservoir (8), inserted sealedly in the neck (2) of the flagon (1), arranged internally of the lower part (4) of the capsule (3) and provided with a breakable bottom (8a); internally of which reservoir (8) a substance is contained, which substance is for inserting into the flagon (1) when the breakable bottom (8a) is ruptured; the capsule (3) also comprising a cutting element (9) for rupturing the breakable bottom (8a); wherein: the lower part (4) of the capsule (3) is being superiorly open and is closed by an upper part (5) which is perimetally connected to the lower part (4) by means of an easy-break ribbing (13); said means for connecting comprising a screw-coupling between the lower part (4) of the capsule (3) and the neck (2) of the flagon (1); characterised in that the capsule (3) comprises means for coupling, for making the reservoir (8) and the lower part (4) of the capsule (3) solid in upwards axial translation; the means for coupling comprising: an external ring (16), solidly constrained to the reservoir (8) and fashioned on an upper external part thereof, a section of which external ring (16) is hook-shaped with a hooked part thereof facing in a downwards direction; an internal annular projection (17), fashioned on an internal surface of the lower part (4) of the capsule (3), for inserting below the external ring (16) when the capsule (3) is screwed on the neck (2) of the flagon (1).
- 2). The capsule of claim 1, wherein the cutting element (9) superiorly projects



from the lower part (4) of the capsule (3) and a projecting part of the cutting element (9) is contained internally of the upper part (5) of the capsule (3).

3). The capsule of claim 1, wherein the capsule (3) comprise a recess (4a) afforded in the lower part (4) of the capsule (3) and a recess (5a) afforded in the upper part (5) of the capsule (3); the recess (4a) and the recess (5a) being in line with one another in order to create, when the capsule (3) is closed, an indentation (6) in a shape corresponding to a human fingertip.

~~4). The capsule (3) of claim 1, wherein the means for connecting comprise a screw coupling between the lower part (4) of the capsule (3) and the neck (2) of the flagon (1).~~

~~5). The capsule of claim 4, wherein the capsule (3) comprises means for coupling, for making the reservoir (8) and the lower part (4) of the capsule (3) solid in upwards axial translation; the means for coupling comprising: an external ring (16), solidly constrained to the reservoir (8) and fashioned on an upper external part thereof, a section of which external ring (16) is hook-shaped with a hooked part thereof facing in a downwards direction; an internal annular projection (17), fashioned on an internal surface of the lower part (4) of the capsule (3), for inserting below the external ring (16) when the capsule (3) is screwed on the neck (2) of the flagon (1).~~